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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/612,612	07/02/2003	Marvin Ruffin	03120057	4756

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MAYER, BROWN, ROWE & MAW LLP
P.O. BOX 2828
CHICAGO, IL 60690-2828

EXAMINER

MAY, ROBERT J

ART UNIT	PAPER NUMBER
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2875

DATE MAILED: 07/13/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

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Office Action Summary	Application No.	Applicant(s)	
	10/612,612	RUFFIN ET AL.	
	Examiner	Art Unit	
	Robert May	2875	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 01 February 2006.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-22 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☒ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-4, 6-11, 13 and 15-20, 22 is/are rejected.
- 7) ☒ Claim(s) 5, 12, 14 and 21 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 21 September 2004 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input checked="" type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. <u>05222006</u> . |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| Paper No(s)/Mail Date _____. | 6) <input type="checkbox"/> Other: _____. |

DETAILED ACTION

This action is a supplemental action in response to the applicant's telephone inquiry on 22 May 2006 regarding the disposition of Claim 22. New art has been discovered and cited in this action which reads on claims that were indicated as allowable in the previous office action, therefore the finality of the action dated 5 May 2006 has been withdrawn. The new basis of rejection follows.

Claim Objections

Claim 11 is objected to because of the following informalities: "the horizontal plane" lacks antecedent basis.

Claim 12 is objected to because on line 2 "some" should be replaced by --a--.

Appropriate correction is required.

Drawings

The drawings are objected to under 37 CFR 1.83(a). The drawings must show every feature of the invention specified in the claims. Therefore, the "facets" as required by Claim 10 must be shown or the feature(s) canceled from the claim(s). No new matter should be entered.

Corrected drawing sheets in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. Any amended replacement drawing sheet should include all of the figures

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appearing on the immediate prior version of the sheet, even if only one figure is being amended. The figure or figure number of an amended drawing should not be labeled as "amended." If a drawing figure is to be canceled, the appropriate figure must be removed from the replacement sheet, and where necessary, the remaining figures must be renumbered and appropriate changes made to the brief description of the several views of the drawings for consistency. Additional replacement sheets may be necessary to show the renumbering of the remaining figures. Each drawing sheet submitted after the filing date of an application must be labeled in the top margin as either "Replacement Sheet" or "New Sheet" pursuant to 37 CFR 1.121(d). If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

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Claims 13, and 15-17, are rejected under 35 U.S.C. 102(b) as being anticipated by Dietz (US Pat 2,293,597).

Regarding Claim 13, Dietz discloses in Figure 2 a reflector 12 with a semi-cylindrical front surface (25), a back surface with an indentation or channel (11), a top and bottom reflecting angled and curved surface 12 (Pg 1, Lines 55-57), which are shown to be quadrilaterally symmetrical to each other in Figure 2.

Regarding Claim 15, Dietz discloses a lens 10, which magnifies light.

Regarding Claim 16, Dietz discloses in Figure 2, the reflective surfaces being angled which create internal reflection to the channel.

Regarding Claim 17, Dietz discloses the reflecting surfaces coated with a silvering solution, which is inherently specularly reflective (Pg 1 Line 55).

Claim 22 is rejected under 35 U.S.C. 102(e) as being anticipated by Marshall (US Pat 6,547,423). Marshall discloses in Figure 5 an LED reflecting lens having a curved front surface 11, a back surface 8 in proximity to a light source, a top and bottom reflecting surface each divided into two symmetrical quadrants (being rotationally symmetrical when lens is laid upon it's side it has a top and bottom surface-Abstract).

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to

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be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 1-3, 6, and 11 are rejected under 35 U.S.C. 103(a) as being unpatentable over Marshall in view of Muraki.

Regarding Claim 1, Marshall discloses in Figure 5 a planar substrate with a top and opposite bottom side with a light emitting device located on the top surface of the planar substrate, a reflecting lens having a curved front surface 11, a back surface 8 in proximity to a light source, a top and bottom reflecting surface each divided into two symmetrical quadrants (being rotationally symmetrical when lens is laid upon it's side it has a top and bottom surface-Abstract).

Marshall fails to disclose the curved front surface as being semi-cylindrical.

Muraki discloses in Figure 2b, a light emitting diode array where a lens has an elongated semi-cylindrical front surface 5 in order to accommodate a linear LED array for display devices (Col 1, line 11). Therefore it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the front surface of Marshall with the semi-cylindrical front surface of Muraki so that the lens can accommodate a linear LED array for a display device.

Regarding Claim 2, Marshall discloses the lens as being made from plastic (Col 5, lines 17-19).

Regarding Claim 3, Marshall discloses the light emitting device as being a light emitting diode (Abstract).

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Regarding Claim 6, Marshall discloses the bottom reflecting surface has angled such to create total internal reflection occurs as shown in Figure 5.

Regarding Claim 11, Marshall discloses a lens (collimator lens) formed within the reflector to focus the beams (Abstract).

Claim 7-9 are rejected under 35 U.S.C. 103(a) as being unpatentable over Marshall and Muraki as applied to claim 1 above, and further in view of Suckow. Marshall fails to disclose the top and bottom reflecting surfaces as having a specular reflective layer, however, Suckow discloses in Figure 1A a light emitting diode light collimating apparatus having a plastic reflector where the reflective surface has a coating such as sputtered aluminum or chrome (Col 5, lines 17-22) which is suitable for providing a reflective surface on a plastic material. Therefore it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the top and bottom reflecting surfaces with the sprayed aluminum or chrome layer of Suckow so that a reflective surface is provided on the surface.

Claim 10 is rejected under 35 U.S.C. 103(a) as being unpatentable over Marshall and Muraki as applied to claim 1 above, and further in view of Lewin (US Pat 4,081,667). Marshall fails to disclose the top and bottom portions having facets, however Lewin discloses in Figure 1 a reflector 12 with a faceted type reflector on the top and bottom reflectors (two sides when the module is laid on its side) so that the reflector acts as a Fresnel type reflector to direct the light in

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the intended direction (Col 2, lines 40-43). Therefore it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the top and bottom reflector surfaces of Marshall with the facets of Lewin so that the reflector can act as a Fresnel type reflector to direct the light in the intended direction.

Claim 4 is rejected under 35 U.S.C. 103(a) as being unpatentable over Marshall and Muraki as applied to claim 1 above, and further in view of Singer. Marshall fails to disclose a heat sink coupled to the planar substrate, however, Singer discloses in Figure 1, an LED module having a planar substrate 18 where a heat sink 14 is coupled to the planar substrate to draw heat away from the light source (Col 3, line 1). Therefore it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the planar substrate of Marshall with the heat sink of Singer in order to draw the heat away from the light source.

Claim 20 is Dietz. Dietz does not explicitly disclose a face on the reflecting surface (12) but it is generally obvious to one of ordinary skill to modify the angled curved surfaces (12) to have a faceted angled surface for a reflecting surface in order to direct the light in particular direction, which is notoriously known in the art. Therefore, it would be obvious to one of ordinary skill in the art to modify the reflecting surfaces (12) of Dietz with faceted surfaces in order to direct the light in a particular direction.

Claim 18 is rejected under 35 U.S.C. 103(a) as being unpatentable over Dietz in view of Morton (US Pat 3,883,731). Dietz discloses all of the claimed features of 13, but does not disclose an evaporated aluminum on the reflecting surfaces (12). However, Morton discloses depositing an aluminum coating on a surface in order to make it reflective. Therefore, it would be obvious to one of ordinary skill in the art to coat the reflective surfaces of Dietz with an Aluminum coating in order to make it reflective.

Claim 19 is rejected under 35 U.S.C. 103(a) as being unpatentable over Dietz in view of Colbert (US Pat 2,390,424). Dietz discloses all of the claimed features of 13, but does not disclose a chromium layer added to the reflecting surfaces (12). However, Colbert discloses depositing a chromium layer on a reflective surface in order to make it reflective, hard, and scratch resistant (Pg 4, Lines 66-68). Therefore, it would be obvious to one of ordinary skill in the art to coat the reflective surfaces of Dietz with a Chromium layer in order to make it reflective and scratch resistant.

Response to Arguments

Applicant's arguments with respect to claim 22 have been considered but are moot in view of the new ground(s) of rejection.

Applicant's arguments with regard to Claim 13 filed 1 February 2006 have been fully considered but they are not persuasive. The applicant asserts that the

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reference Dietz does not reflect the light in a substantially horizontal plane because Dietz discloses an imaging device as opposed to what the applicant is claiming being a non-imaging device, which is central to the effective function of the invention. However, Dietz does disclose structure of the reflectors that can emit the light in a horizontal plane albeit towards the light channel.

In response to applicant's argument that the references fail to show certain features of applicant's invention, it is noted that the features upon which applicant relies (i.e., reflecting surfaces that are distinct geometrically from the body 10) are not recited in the rejected claim(s). Although the claims are interpreted in light of the specification, limitations from the specification are not read into the claims. See *In re Van Geuns*, 988 F.2d 1181, 26 USPQ2d 1057 (Fed. Cir. 1993).

Allowable Subject Matter

Claims 5, 12, 14 & 21 objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

In regard to Claims 5 and 14, the prior art does not teach or suggest a reflector with a toroidal lens on the semi-cylindrical front surface.

In regard to Claim 12 and 21, the prior art does not teach or suggest an aperture covering or installed on a part of the semi-cylindrical front surface.

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Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Robert May whose telephone number is (571) 272-5919. The examiner can normally be reached between 9 am– 5:30pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Sandra O'Shea can be reached on (571) 272-2378. The fax number for the organization where this application or proceeding is assigned is (571) 273-8300 for all communications.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval PAIR system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

RM

6/28/06



Sandra O'Shea
Supervisory Patent Examiner
Technology Center 2800